Information in the following description of alternatives is intended to highlight the most significant features of each alternative. A more-comprehensive understanding of alternatives requires study of other portions of this chapter and Chapter IV, particularly where the outputs and effects related to environmental consequences are described

As you review these alternatives, it may be helpful to refer to the accompanying maps of the alternatives These maps display the location of the management areas and a brief description of each management area The acreage assigned to each management area in the alternatives is displayed in Table II-4 (p. 93), which displays a hierarchical means for acre allocations with no acre overlap

6. Alternative Descriptions

a *Alternative NC (No Change)*

The "No Change" alternative has been developed in response to direction by the Chief of the Forest Service and Deputy Assistant Secretary Douglas MacCleery regarding appeal number 1588, brought by the Northwest Forest Resource Council on May 19, 1986. The appeal centered on direction by Regional Forester James F Torrence to "require inclusion of (Minimum Management Requirements) in the Current Direction Alternative for each Forest Plan " The substance of the appeal was that a "true No-Action Alternative representing current management plans" was not included in the Forest Plan Environmental Impact Statements. The No Change Alternative is designed to represent the existing timber management plans and, consequently, does not comply with all provisions of the National Forest Management Act (NFMA) and regulations promulgated by the Secretary of Agriculture to implement NFMA. The following provisions of NFMA or other laws or regulations are not partially or fully complied with in current management plans represented by the No Change Alternative.

CFR 219 14 - Timber resource land suitability Requires identification of land not suited for timber production based on risk of irreversible resource damage, lack of assurance of reforestation within five years, or withdrawal by Act of Congress, Secretary of Agriculture, or Chief of the Forest Service

CFR 219 16 - Timber resource sale schedule Requires determination of the quantity of timber that may be sold during each decade Requires calculation of the long-term sustained yield capacity

CFR 219.27(c)(1) - Management Requirements, silvicultural practices Requires that no timber harvesting shall occur on lands classified as not suited for timber production pursuant to CFR 219.14, except for salvage sales, sales necessary to protect other multiple use values or activities that meet other objectives on such lands if the forest plan objectives establish that such actions are appropriate

The No Change Alternative could not be implemented or used in future management of the Forest under the Forest Plan without Congressional and/or Secretary of Agriculture action to change the law or regulations

Timber Management The timber management goal is to grow moderate size trees 19-inch diameter and larger) while emphasizing rapid fiber growth rates. A full range of timber management intensities would be made available to 1,116,577 acres to meet this goal. 59 percent of this land would be managed for full yield and 41 percent for 50 to 90 percent of full yield. First decade potential yield in Alternative NC would be 269 7 million board feet annually. This is about 42 million board feet above 1980-89 average annual sell levels Potential yield is the sustainable output of wood fiber available after the needs of other Forest uses have been deducted from the biological potential

Range Management The range management goal is to provide sufficient forage to support 126,150 animal unit months annually Specific management direction regarding how to meet this goal is not available.

Recreation The recreation management goal is to emphasize dispersed, roaded recreation opportunities with sufficient recreation opportunities in both unroaded and developed settings to meet expected demand Unroaded recreation opportunities outside wilderness would be provided in five currently unroaded areas encompassing 54,167 acres Wilderness acres would remain at the level they are today, 81,320 acres These areas would be managed under provisions in the Wilderness Act of 1964 and subsequent legislation

Virtually all remaining Forest land is managed to provide opportunities for roaded recreation. Management activities are modified on 66,720 acres along visually sensitive travel routes, as described in the Timber Resource Management Plan.

Riparian Area Management and Fisheries Habitat The riparian and fisheries management goal is to manage all riparian areas to meet State water quality standards, which will maintain viable populations of resident fish and maintain anadromous fish habitat at or above current capability

Wildlife Habitat The wildlife habitat management goal is to manage all wildlife emphasis areas to benefit associated wildlife species.

Snag habitat would be retained to support 60 percent of the potential population of cavity-dwelling species in areas assigned to wildlife emphasis and 40 percent in timber and range emphasis areas Snag replacement trees were not a part of the design in the Timber Resource Management Plan, and hence would not be provided

Old-Growth Forest The old-growth management goal is to provide old-growth habitat for dependent species On those areas available for programmed timber harvest, 123,587 acres of potential old-growth habitat would be managed under a 260-year rotation using a three-tier system to maintain approximately one-third of this area in old growth An additional 64,027 acres of old growth would be provided in wilderness, roadless areas, and bald eagle winter roosts

Management of Undeveloped Areas The undeveloped area management goal is to maintain, in a roadless condition, key roadless areas identified during the unit planning process (McClellan Mountain, North Fork Malheur River, Malheur River, Glacier Mountain, and Greenhorn Mountain) These areas would be managed using boundaries shown in unit plans The remaining roadless areas would be assigned to other resource emphases

Unroaded recreation opportunities outside wilderness would be provided on 54,167 acres. The Pine Creek Further Planning Area would be assigned to timber and range management emphasis, however, timber management would be deferred

Mitigation Measures Alternative NC provides management direction for wildlife, roadless areas, and scenic travel corridors

Within the acreage available for timber production, old-growth habitat areas will be managed for dependent wildlife species In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels

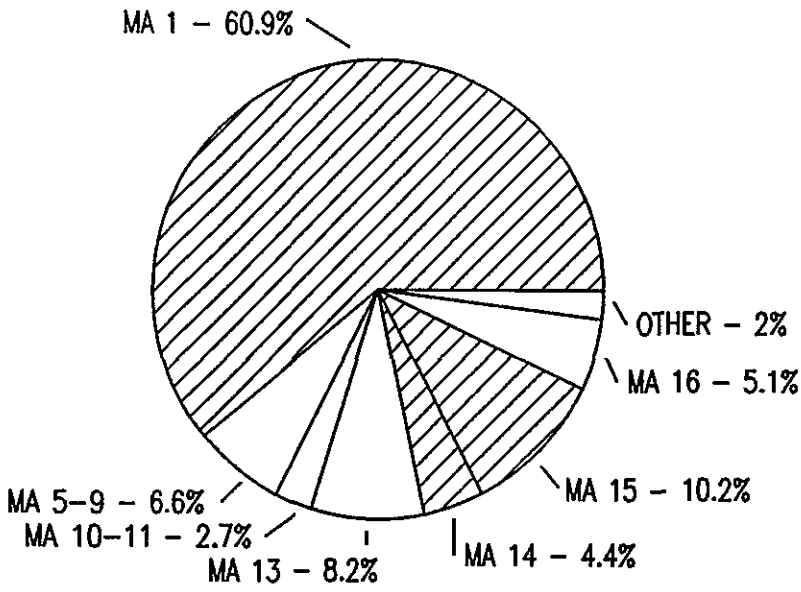
To maintain viable populations of cavity-excavating species which in turn provide habitat for other species, snags would be managed to provide habitat for at least 40 percent of the potential population in timber and range emphasis areas, and at least 60 percent in wildlife emphasis areas In addition, dead trees would be left to fall across streams to produce fish-rearing pools

Alternative NC includes 54,167 acres of roadless areas managed to provide a scenic or semiprimitive, nonmotorized recreational opportunity Timber harvesting, road construction, and motor vehicles of any kind would be prohibited in these areas. These areas, along with the 81,320 acres of wilderness, would provide places for the Forest visitor to get away from the sounds and sights of human activity

Logging activities, road construction, and grazing would be modified on 66,720 acres of land that occur along visually sensitive travel routes These foreground viewing areas would be managed to provide travelers with "natural-appearing" to "slightly altered" scenery.

Figure II-2 represents the percent of land in various management areas in Alternative NC. The acres by management area are displayed in Table II-4.

FIGURE II-2: Management Areas for Alternative NC (Percents)



b *Alternative A (No Action)*

Alternative A was developed to continue implementation of the management direction provided by the existing land management plans (John Day, Silvies-Malheur, and South Fork Unit Plans) and the Timber Resource Management Plan updated to meet current laws and regulations This includes compliance with Management Requirements (MRs) and National Forest Management Act provisions and regulations. This alternative provides an estimate of the activities and outputs likely to occur if management were to continue under existing direction The goal of these plans is to intensively manage the timber resource coordinated with nonintensive management of recreation and wildlife

Alternative A serves as the No Action Alternative required by the National Environmental Policy Act of 1969

Timber Management The timber management goal of this alternative is to grow moderate size trees (17-inch diameter and larger) while emphasizing rapid fiber growth rates Ponderosa pine would be emphasized on approximately 311,111 acres, and mixed conifer species emphasized on approximately 531,177 acres A full range of timber management intensities would be made available to 967,327 acres Of these available acres, 898,424 acres are deemed suitable for timber harvest Of the suitable land, 86 percent would be managed for full yield, 4 percent for 50 to 90 percent of full yield, and 10 percent for less than 50 percent of full yield First decade annual timber harvest in Alternative A would be 232 7 million board feet annually This is about 4 million board feet above 1980-89 average annual sell levels

Range Management The range management goal is to sustain permitted range use levels. Full utilization of forage by livestock would be encouraged Seeding would be done on some forested land after timber harvest to increase existing livestock forage production Livestock and big game may consume 50 percent of the annual growth of *forage on uplands in this alternative*

Recreation The recreation management goal is to emphasize dispersed, roaded recreation opportunities with sufficient recreation opportunities in both unroaded and developed settings to meet expected demand

Unroaded recreation opportunities outside wilderness would be provided in 6 currently unroaded areas encompassing 59,179 acres (including 3,066 acres of the wild portion of the Malheur River) Wilderness acres would remain at the level they are today, 81,320 acres Monument Rock Wilderness would be managed for semiprimitive wilderness recreation opportunities Strawberry Mountain Wilderness would have 8,244 acres in the lakes basin managed for semiprimitive wilderness opportunities, 53,586 acres managed as primitive trailed wilderness, and 6,870 acres managed as primitive trailless

Virtually all the remainder of the Forest would be managed to provide opportunities for roaded recreation Of the 25 existing campgrounds, 11 would be managed as developed sites The remaining campgrounds would be managed for dispersed use (sanitation facilities only would be provided) Management activities would be modified on 249,591 acres along visually sensitive travel routes

Riparian Area Management and Fisheries Habitat The riparian area and fisheries management goal is to manage all riparian areas to meet Oregon State water quality standards and maintain or improve anadromous fish habitat Improvement in resident trout habitat would generally be achieved through a gradual improvement in riparian condition rather than by habitat improvement work occurring in the stream itself Structural habitat improvement work would generally be for mitigation only This would be done on approximately 3 miles of stream per year

Livestock and big game would be allowed to consume 70 percent of the annual growth of grass forage and 67 percent of the annual shrub growth in riparian areas In addition to approximately 3 miles of lower intensity instream structural work done as mitigation, more intensive instream habitat improvements would be applied at a rate of about 2 miles per year in anadromous streams

Wildlife Habitat The big-game habitat management goal is to manage elk summer range and wildlife emphasis areas via a Habitat Effectiveness Index (HEI) model developed for the Blue Mountains, applied on a subwatershed basis (3,000-15,000 acres). A specific goal is to manage all elk winter range for an optimal mix and distribution of forage and cover in unit plan wildlife emphasis areas Satisfactory big-game cover would be retained at a minimum of approximately 10 percent in general forest allocations (where possible)

Snag habitat would be retained to support 60 percent of the potential population of cavity-dwelling species in areas assigned to wildlife emphasis and 40 percent in timber and range emphasis areas Replacement snag habitat would be provided.

Habitat improvement to mitigate timber harvest, road construction, or livestock grazing impacts to the wildlife resource would occur. It would include burning, seeding and planting to improve forage conditions Also included would be snag creation, retention of dead and down woody material, and rehabilitating decadent aspen stands Habitat enhancement would occur at a low level.

Old-Growth Forest The old-growth management goal is to provide sufficient habitat to maintain dependent species at or above their minimum viable population levels. Total old-growth habitat provided would be 104,661 acres, with 40,800 acres on timber producing lands outside wilderness, roadless areas, and bald eagle winter roosts

Management of Undeveloped Areas The undeveloped area management goal is to maintain, in a roadless condition, key roadless areas identified during the unit planning process (McClellan Mountain, North Fork Malheur River, Malheur River, Glacier Mountain, Greenhorn Mountain, and Pine Creek) These areas would be managed using boundaries shown in unit plans. The remaining roadless areas would be assigned to other resource emphases

Unroaded recreation opportunities outside wilderness would be provided on 59,179 acres. The Pine Creek Further Planning Area would not be recommended for wilderness designation, but would be retained as a roadless area.

Research Natural Areas: The Research Natural Area (RNA) management goal is to preserve the established areas as examples of naturally occurring ecosystems in unmodified conditions for research and education Canyon Creek is the only existing Research Natural Area Three candidate RNAs would be identified for the Forest, one is located in the Strawberry Mountain Wilderness (Baldy Mountain), and the others are McClellan Mountain and Antelope Valley.
Mitigation Measures Alternative A provides management direction for wildlife, roadless areas, and scenic travel corridors.

Within the acreage available for timber production, enough old-growth habitat areas would be dedicated to maintain the dependent wildlife species at or above their minimum viable level In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels.

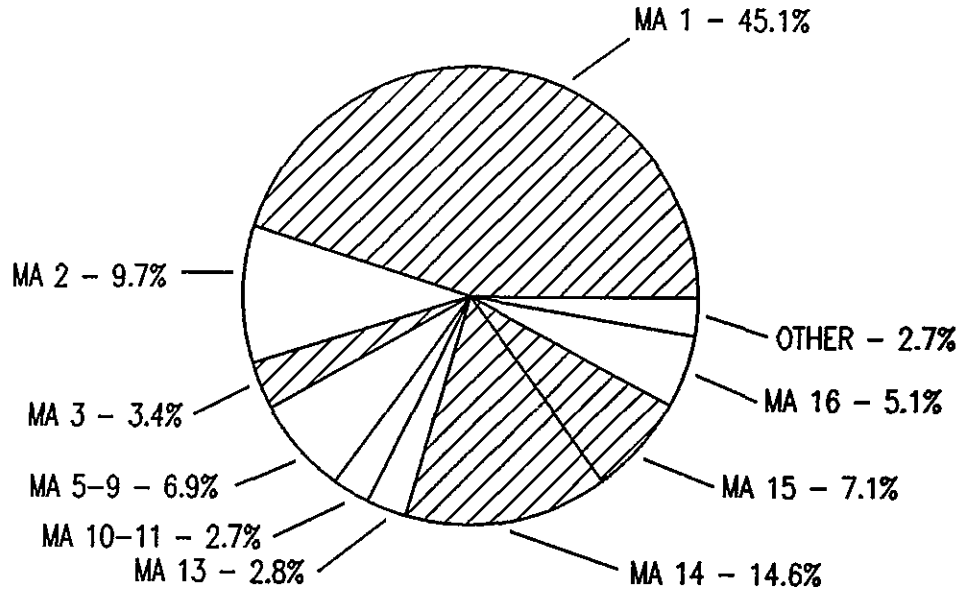
To maintain viable populations of cavity-excavating species, which in turn provide habitat for other species, snags would be managed to provide habitat for at least 40 percent of the potential population in timber and range emphasis areas, and at least 60 percent in wildlife emphasis areas In addition, dead trees along stream courses would be left to fall across streams to produce fish-rearing pools

Alternative A includes 59,179 acres of roadless areas managed to provide a semiprimitive, Non-Motorized recreational opportunity Timber harvesting, road construction, and motor vehicles of any kind would be prohibited in these areas These areas, along with the 81,320 acres of wilderness, would provide places for the Forest visitor to get away from the sounds and sights of human activity

Logging activities, road construction, and grazing would be modified on 249,591 acres of land that occur along visually sensitive travel routes These viewsheds would be managed to provide travelers with "natural-appearing" to "slightly altered" scenery.

Figure II-3 represents the percent of land in various management areas in Alternative A. The acres by management area are displayed in Table II-4.

FIGURE II-3: Management Areas for Alternative A (Percents)



c *Alternative B-Mod (DEIS Alternative B as Modified to Incorporate Preferred - Plus Alternative)*

Alternative B-Modified emphasizes the production of resources such as timber, developed recreation, minerals, and most other resources which have the potential to return revenue to the U S. Treasury and local counties Management of other resources is at economically and environmentally feasible levels that are consistent with the overall emphasis on market-oriented outputs

Alternative B-Modified also attempts to meet the 1980 Resources Planning Act program output targets assigned to the Forest for timber production through the Pacific Northwest Regional Guide

Timber Management The timber management goal of this alternative is to grow moderate size trees (17-inch diameter and larger) while meeting Resources Planning Act program targets for the first 50 years and emphasizing rapid fiber growth by utilizing later successional timber species Ponderosa pine would be emphasized on approximately 316,152 acres and mixed conifer species on approximately 580,632 acres A full range of timber management intensities would be made available to 987,088 acres to meet this goal Of these available acres 956,783 acres are deemed suitable for timber harvest Of the suitable land, 91 percent would be managed for full yield, 4 percent for 50 to 90 percent of full yield, and 5 percent for less than 50 percent of full yield First decade annual timber harvest in Alternative B-Modified would be 265 9 million board feet annually. This is about 38 million board feet above 1980-89 average annual sell levels

historic use levels Utilization of forage by livestock would be encouraged. Seeding would be done annually on both forested and nonforested rangeland to optimize forage for cattle. Livestock and big game may consume 50 percent of the annual growth of forage on uplands in this alternative

Recreation. The recreation management goal is to emphasize recreation in a roaded modified setting.

Unroaded recreation opportunities outside wilderness would be provided in the 13,322 acres of the Vinegar Hill-Indian Rock Scenic Area Wilderness acres would remain at the level they are today, 81,320 acres Monument Rock Wilderness would be managed for semiprimitive wilderness recreation opportunities Strawberry Mountain Wilderness would have 61,830 acres managed for semiprimitive wilderness opportunities and 6,870 acres managed as primitive trailless Unroaded recreation opportunities would also be available in 3066 acres of the Malheur River designated as wild under the Oregon Omnibus Wild and Scenic Rivers bill

Virtually all the remainder of the Forest would be managed to provide opportunities for roaded recreation. Of the 25 existing campgrounds, 11 would be managed as developed sites. The remaining campgrounds would be managed for dispersed use Management activities would be modified on 199,913 acres along visually sensitive travel routes

Riparian Area Management and Fisheries Habitat The riparian area and fisheries management goal is to manage all riparian areas to meet Oregon State water quality standards and maintain or improve anadromous fish habitat Improvement in resident trout habitat would generally be achieved through improvement in riparian condition rather than by habitat improvement work occurring in the stream itself Structural habitat improvement work on about 3 miles of stream per year would generally be for mitigation only

In riparian areas, livestock and big game may consume 45 percent of the annual growth of grass forage and 40 percent of the annual shrub growth in this alternative Livestock use would be limited on streamside forage along about 70 miles of anadromous streams with riparian areas in less than desired condition, for a period of time to accelerate riparian improvement in these areas In addition to approximately 3 miles of lower intensity instream structural work as mitigation, more intensive instream habitat improvements in anadromous streams would be applied at a rate of about 3 miles per year

Wildlife Habitat· The big-game habitat management goal is to manage elk summer and winter range via a Habitat Effectiveness Index (HEI) model developed for the Blue Mountains, applied on a subwatershed basis (3,000-15,000 acres). Winter range would be managed to provide a mix and distribution of forage and cover Three of the elk winter ranges would receive intensive timber management Satisfactory big-game cover would be retained at a minimum of 5 percent in both summer and winter ranges across the forest.

Snag habitat would be retained to support 40 percent of the potential population of cavity-dwelling species Forest-wide In riparian areas and areas immediately adjacent to riparian areas snag habitat would be retained to support 80 percent and 50 percent of the potential population of cavity-dwelling species, respectively Snag replacement habitat would also be provided at the same levels

Habitat improvement to mitigate timber harvest, road construction, or livestock grazing impacts to the wildlife resource would occur It would include burning, seeding and planting to improve forage It will also include snag creation, leaving of dead and down woody material, and rehabilitating decadent aspen stands Habitat enhancement would occur at a low level

Old-Growth Forest The old-growth management goal is to provide sufficient habitat to maintain dependent species at or above their minimum viable population levels Total old-growth habitat provided after decade 5 would be limited to 90,509 acres, with 43,600 acres on timber-producing lands outside wilderness, roadless areas, and bald eagle winter roosts

Management of Undeveloped Areas The undeveloped area management goal is to maintain, in a roadless condition, the Vinegar Hill-Indian Rock Scenic Area and wild portion of Malheur River The remaining roadless areas would be assigned to other resource emphases

Unroaded recreation opportunities outside wilderness would be provided on 13,322 acres The Pine Creek Further Planning Area would not be recommended for wilderness and is assigned to other resource emphases

Research Natural Areas The Research Natural Area (RNA) management goal is to preserve the established areas as examples of naturally occurring ecosystems in unmodified conditions for research and education Canyon Creek is the only existing Research Natural Area Three candidate RNAs would be identified for the Forest, one is located in the Strawberry Mountain Wilderness (Baldy Mountain), and the others are McClellan Mountain and Antelope Valley

Mitigation Measures Alternative B-Modified provides management direction for wildlife, roadless areas, riparian areas, and scenic travel corridors

Within the acreage available for timber production, enough old-growth habitat areas would be dedicated to maintain the dependent wildlife species at or above their minimum viable level In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels

To maintain viable populations of cavity-excavating species, which in turn provide habitat for other species, snags would be managed to provide habitat for 80 percent of the potential population in riparian areas and 50 percent of potential populations immediately adjacent to riparian areas, with a Forest-wide objective of 40 percent In addition, dead trees along stream courses would be left to fall across streams to produce fish-rearing pools

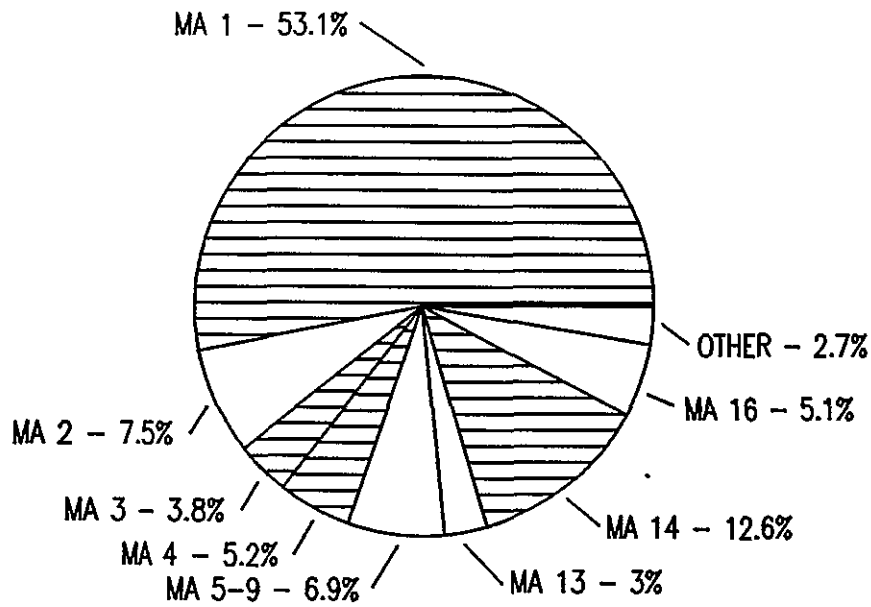
Alternative B-Modified includes the 13,322 acre Vinegar Hill-Indian Rock Scenic Area (part of the Greenhorn Mountain roadless area) that has been designated as semiprimitive motorized Timber harvesting, road construction, and motor vehicles (other than snowmobiles) would be prohibited in this area This area, along with the 81,320 acres of wilderness, would provides a place for the Forest visitor to get away from the sounds and sights of human activity

Logging activities, road construction, and grazing are modified on another 199,913 acres of land that occurs along visually sensitive travel routes These viewsheds will be managed to provide travelers with "natural-appearing" to "slightly altered" scenery

Alternative B-Modified mitigates the impacts of livestock grazing on riparian areas along anadromous streams that are in unsatisfactory condition Livestock grazing will be reduced or eliminated for a period of time to allow the riparian vegetation and streambanks to improve to an acceptable level Once recovered, the riparian areas will be managed to maintain an acceptable condition

Figure II-4 gives a representation of the percent of land in various management areas in Alternative B-Modified The acres by management area are displayed in Table II-4

FIGURE II-4: Management Areas for Alternative B-Modified (Percents)



d. *Alternative C-Mod (DEIS Alternative C Modified to Incorporate Grant County Conservationist and Citizens Multiple Use Alternatives)*

Alternative C-Modified assigns all current roadless areas outside existing wilderness to a management prescription which will maintain their roadless status It also emphasizes the protection of natural scenery, fish and wildlife habitat, and other amenity values Management of other resources would be at economically and environmentally feasible levels consistent with the overall emphasis on amenity values.

Timber Management The timber management goal is to grow large-size ponderosa pine trees (26-inch diameter and larger), utilizing both even-aged and uneven-aged management systems. Timber management would favor perpetuation of ponderosa pine across the Forest where biologically possible Ponderosa pine would be emphasized on approximately 481,783 acres, and mixed conifer species emphasized on approximately 245,470 acres A range of timber management intensities emphasizing production of large-size ponderosa pine trees would be made available to 831,340 acres to meet this goal. Of these available acres, 770,387 acres are deemed suitable for timber harvest. Of the suitable land, 35 percent would be managed for full yield, 54 percent for 50 to 90 percent of full yield, and 11 percent for less than 50 percent of full yield First decade annual timber harvest in Alternative C-Modified would be 154 0 million board feet annually This is about 74 million board feet below 1980-89 average annual sell levels

Range Management: The range management goal is to allow range use where it does not conflict with the amenity orientation of this alternative Grasses, forbs, and other forage would be managed to provide forage for both livestock and big game Livestock

and big game would be allowed to consume 50 percent of the annual growth of forage on uplands

Recreation The recreation management goal is to emphasize unroaded recreation opportunities

Unroaded recreation opportunities outside wilderness would be provided in all currently unroaded areas encompassing 175,416 acres (including 3,066 acres of the wild portion of the Malheur River). Wilderness acreage would increase to 86,740 acres. Monument Rock Wilderness would be managed for semiprimitive wilderness recreation opportunities. Strawberry Mountain Wilderness would have 61,830 acres managed as primitive trailed wilderness and 6,870 acres managed as primitive trailless. Pine Creek roadless area would be recommended for wilderness and managed for semiprimitive wilderness recreation opportunities In addition, roughly 17,100 acres would be added to the RARE II areas to make more manageable boundaries.

Virtually all the remainder of the Forest would be managed to provide opportunities for roaded recreation Of the 25 existing campgrounds, 11 would be managed as developed sites The remaining campgrounds would be managed for dispersed use Management activities would be modified on 307,819 acres along visually sensitive travel routes

Riparian Area Management and Fisheries Habitat The riparian area and fisheries management goal is to manage all riparian areas to meet Oregon State water quality standards and improve anadromous and resident fish habitat. No timber harvest would be scheduled for Class I, II and III stream riparian zones Improvement in resident and anadromous fish habitat would be achieved through improved livestock management adjacent to streams and a moderate level of instream improvements

No scheduled timber harvest will occur in riparian areas Livestock and big game may consume 45 percent of the annual growth of grass forage and 40 percent of the annual shrub growth in this alternative Livestock use would limited for a period of time on pastures adjacent to riparian areas in less than desired condition to allow improvement of these areas Instream improvements would be applied at a rate of about 5 miles per year

Wildlife Habitat The big-game habitat management goal is to manage elk summer and winter range (maintenance and enhancement) via a Habitat Effectiveness Index (HEI) model developed for the Blue Mountains, applied on a subwatershed basis (3,000-15,000 acres). All elk winter range would be managed to enhance forage production and provide an optimum mix and distribution of forage and cover. The carrying capacity of five of the elk winter ranges would be enhanced Livestock use would be limited to 25 percent of the forage available in these 5 winter range areas Satisfactory big-game cover would be retained at a minimum of 15 percent in both summer and winter ranges (where possible).

Snag habitat would be retained to support 60 percent of the potential population of cavity-dwelling species Forest-wide In riparian areas and areas immediately adjacent to riparian areas, snag habitat would be retained to support 80 percent and 50 percent of the potential population of cavity-dwelling species, respectively Snag replacement habitat would also be provided at these levels

Habitat improvement to mitigate timber harvest, road construction, or livestock grazing impacts to the wildlife resource would occur. Habitat enhancement would occur at moderate-to-high levels It would include burning, seeding and planting to improve forage It will also include snag creation, retention of dead and down woody material, and rehabilitating decadent aspen stands.

This alternative would meet Oregon State Fish and Wildlife management objectives

Old-Growth Forest: The old-growth management goal is to provide sufficient habitat to maintain dependent species at 50 percent or more above their minimum viable population levels. After decade 5, total old-growth habitat provided would be limited to 178,761 acres, with 47,930 acres on timber-producing lands outside wilderness, bald eagle winter roosts, and roadless areas.

Management of Undeveloped Areas The undeveloped area management goal is to maintain all existing roadless areas in a roadless condition

Unroaded recreation opportunities outside wilderness would be maintained at approximately 193,064 acres. Boundaries would be those used in the RARE II process, with modifications in several areas The Pine Creek Further Planning Area would be recommended for wilderness designation

Research Natural Areas The Research Natural Area (RNA) management goal is to preserve the established areas as examples of naturally occurring ecosystems in unmodified conditions for research and education Canyon Creek is the only existing Research Natural Area Three candidate RNAs would be identified for the Forest, one is located in the Strawberry Mountain Wilderness (Baldy Mountain), and the others are McClellan Mountain and Antelope Valley

Mitigation Measures Alternative C-Modified provides management direction for wildlife, roadless areas, riparian area improvement, insect-resistant stands, and scenic travel corridors.

Within the acreage available for timber production, old-growth habitat areas would be dedicated to maintain the dependent wildlife species at 50 percent or more above their minimum viable level In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels

To maintain viable populations of cavity-excavating species, which in turn provide habitat for other species, snags would be managed to provide habitat for 80 percent of the potential population in riparian areas and 50 percent of potential populations immediately adjacent to riparian areas for a Forest-wide objective of 60 percent Dead trees which fall across streams would also be left to produce fish-rearing pools

The risk of a western spruce budworm epidemic in the mixed conifer stands is mitigated by silvicultural prescription These stands would receive a regeneration cut and would be planted with ponderosa pine

Livestock grazing would be mitigated on five of the inventoried elk winter ranges with an enhancement strategy Of the available grass and grass-like forage, 75 percent would be allocated to big game Other management activities which would enhance elk winter range, such as burning, seeding, or shrub restoration, would be implemented to maintain quality forage

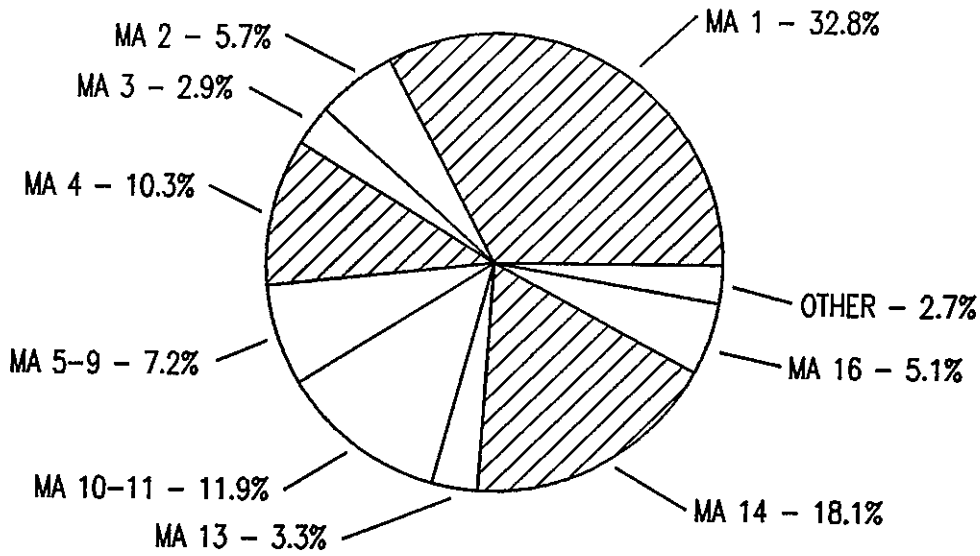
Effects of timber management activities such as logging and road construction would be mitigated in Alternative C-Modified with roughly 192,500 acres of roadless areas. There are two kinds of roadless areas planned There would be about 119,479 acres of roadless areas that will provide semiprimitive, nonmotorized recreation Timber harvesting, road construction, and motorized vehicles of any kind would be prohibited in these areas These areas, along with 86,740 acres of wilderness, would provide for the Forest visitor who wants to get away from the sounds and sights of human presence There would also be 73,037 acres which would provide semiprimitive motorized recreation Timber harvesting and road construction would be prohibited in these areas, while motorized vehicles would be permitted and trails can be constructed to provide for Forest visitors who enjoy motorized recreation in a semiprimitive setting

Logging activities, road construction, and grazing would be modified on 307,819 acres of land that occur along visually sensitive travel routes These visual zones would be managed to provide travelers with "natural-appearing" to "slightly altered" scenery

Alternative C-Modified mitigates the impacts of livestock grazing on riparian areas in unsatisfactory condition Livestock grazing would be reduced for a period of time to allow riparian vegetation and streambanks to improve to an acceptable level Once recovered, the riparian areas would be managed to maintain an acceptable condition

Figure II-5 gives a representation of the percent of land in various management areas in Alternative C- Modified The acres by management area are displayed in Table II-4

FIGURE II-5: Management Areas for Alternative C-Modified (Percents)



e. *Alternative F (Preferred Alternative in DEIS)*

Alternative F emphasizes market-oriented outputs while providing for a moderate level of amenity features in land allocations To balance the economic effects of amenity features outside of unroaded areas, commodity production is featured on a majority of the currently unroaded areas tentatively suited for timber production

Timber Management The timber management goal is to grow moderate-size trees (17-inch diameter and larger) while emphasizing fiber production on a majority of the productive true fir sites Ponderosa pine would be emphasized on approximately 311,202 acres, and mixed conifer species emphasized on about 552,790 acres A full range of timber management intensities would be made available to 951,028 acres to meet this goal Of these available acres, 919,748 acres are deemed suitable for timber harvest Of the suitable land, 88 percent would be managed for full yield, 4 percent for 50 to 90

percent of full yield, and 8 percent for less than 50 percent of full yield First decade annual timber harvest in Alternative F would be 246 6 million board feet annually. This is about 18 million board feet above 1980-89 average annual sell levels

Range Management The range management goal is to maintain permitted range use levels with some reduction to improve riparian areas in unsatisfactory condition. Full utilization of forage will be encouraged Livestock and big game would be allowed to consume 50 percent of the annual growth of forage on uplands

Recreation: The recreation management goal is to emphasize dispersed, roaded recreation opportunities with a moderate level of unroaded and developed recreation opportunities.

Unroaded recreation opportunities outside wilderness would be provided in 7 currently unroaded areas encompassing 66,962 acres (including 3,066 acres of the wild portion of the Malheur River) Wilderness acres would remain at the level they are today, 81,320 acres. Monument Rock Wilderness would be managed for semiprimitive wilderness recreation opportunities Strawberry Mountain Wilderness would have 8,244 acres in the lakes basin managed for semiprimitive wilderness opportunities, 53,586 acres managed as primitive trailed wilderness, and 6,870 acres managed as primitive trailless

Virtually all the remainder of the Forest would be managed to provide opportunities for roaded recreation. Of the 25 existing campgrounds, 11 would be managed as developed sites. The remaining campgrounds would be managed for dispersed use Management activities would be modified on 204,215 acres along visually sensitive travel routes

Riparian Area Management and Fisheries Habitat The riparian area and fisheries management goal is to manage all riparian areas to meet Oregon State water quality standards and maintain or improve anadromous fish habitat. Improvement in resident trout habitat would generally be achieved through improvement in riparian condition rather than by habitat improvement work occurring in the stream itself Structural habitat improvement work on about 3 miles of stream per year would generally be for mitigation only.

In riparian areas in good condition, livestock and big game would be targeted to consume 45 percent of the annual growth of grass forage and 40 percent of annual shrub growth In riparian areas in less than desired condition (approximately 60,000 acres of land containing approximately 2,000 acres of anadromous riparian areas), livestock would be targeted to consume 0-40 percent of the annual growth of grass forage. In addition to approximately 3 miles of lower intensity instream structural work as mitigation, more intensive instream habitat improvements would be applied at a rate of about 2 miles per year in anadromous streams

Wildlife Habitat· The big-game habitat management goal is to manage elk summer and winter range areas via a Habitat Effectiveness Index (HEI) model developed for the Blue Mountains, applied on a subwatershed basis (3,000-15,000 acres) Elk winter range would be managed to provide an optimum mix and distribution of forage and cover Satisfactory big-game cover would be retained at a minimum of 5 percent for both summer and winter ranges across the forest

Snag habitat would be retained to support an average of at least 40 percent of the potential population of cavity-dwelling species Forest-wide. In riparian areas, and areas immediately adjacent to riparian areas snag habitat would be retained to support 80 percent and 50 percent of the potential population of cavity-dwelling species, respectively. Commercial Forest lands outside riparian would be managed at the 40 percent level. Snag replacement trees would be provided to maintain these levels of habitat through time.

Habitat improvement to mitigate timber harvest, road construction, or livestock grazing impacts to the wildlife resource would occur. Habitat enhancement would occur at a low-to-moderate level. It would include burning, seeding and planting to improve forage. It

will also include snag creation, leaving dead and down woody material, and rehabilitating decadent aspen stands

Old-Growth Forest The old-growth management goal is to provide sufficient habitat to maintain dependent species at 30 percent or more above their minimum viable population levels Total old-growth habitat remaining after decade 5 would be 121,042 acres, with 50,090 acres on timber-producing lands outside wilderness, bald eagle winter roosts, and roadless areas

Management of Undeveloped Areas The undeveloped area management goal is to maintain in a roadless condition Aldrich, McClellan Mountain, Malheur River, North Fork Malheur River, Glacier Mountain, Myrtle-Silvies, and Greenhorn Mountain areas utilizing manageable boundaries The remaining roadless areas would be assigned to other resource emphases

Unroaded recreation opportunities outside wilderness would be provided on 66,962 acres The Pine Creek Further Planning Area would not be recommended for wilderness designation but is assigned to other resource emphases

Research Natural Areas The Research Natural Area (RNA) management goal is to preserve the established areas as examples of naturally occurring ecosystems in unmodified conditions for research and education Canyon Creek is the only existing Research Natural Area Three candidate RNAs would be identified for the Forest one is located in the Strawberry Mountain Wilderness (Baldy Mountain), and the others are McClellan Mountain and Antelope Valley

Mitigation Measures Alternative F provides management directions for wildlife, roadless areas, riparian area improvement, and scenic travel corridors

Within the acreage available for timber production, sufficient old-growth habitat would be dedicated to maintain the dependent wildlife species at 30 percent or more above their minimum viable level In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels

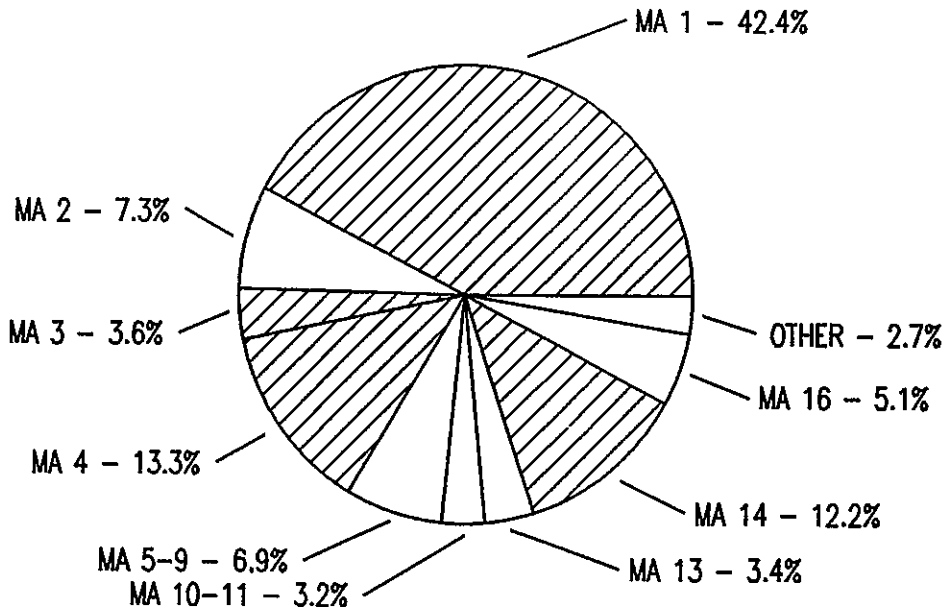
To maintain viable populations of cavity-excavating species, which in turn provide habitat for other species, snags would be managed to provide habitat for at least 80 percent of the potential population in riparian areas and 50 percent of potential populations immediately adjacent to riparian areas for a Forest-wide objective of around 40 percent. Dead trees along stream courses which fall across streams would be left to produce fish-rearing pools

Effects of timber management activities, such as logging and road construction, are mitigated in Alternative F with 66,962 acres of roadless areas Two kinds of roadless areas are planned. There would be 50,949 acres of roadless areas that would provide semiprimitive, nonmotorized recreation Timber harvesting, road construction, and motorized vehicles of any kind would be prohibited in these areas These areas, along with 81,320 acres of wilderness, would provide for the Forest visitor who wants to get away from the sounds and sights of human presence There are 16,013 acres which would provide semiprimitive, motorized recreation Timber harvesting and road construction would be prohibited in these areas while allowing for motorized vehicles and trail construction to provide for Forest visitors that enjoy motorized recreation in a semiprimitive setting

Logging activities, road construction, and grazing would be modified on 204,215 acres of land that occur along visually sensitive travel routes These viewsheds would be managed to provide travelers with "natural-appearing" to "slightly altered" scenery

Figure II-6 gives a representation of the percent of land in various management areas in Alternative F The acres by management area are displayed in Table II-4

FIGURE II-6: Management Areas for Alternative F (Percents)



f *Alternative I (Preferred Alternative)*

Alternative I features a range of land uses between amenity values and commodity production emphasis This alternative reduces harvest in riparian zones, features uneven-aged management on roughly 30 percent of the suitable timber lands, and intensifies regeneration harvests where severe insect and disease agents have recently occurred Approximately one-half of unroaded areas remain unroaded

Timber Management The timber management goal is to grow a range of moderate-size trees (18-inch diameter and larger) while emphasizing the conversion of mixed conifer stands to ponderosa pine in order to produce harvest volumes of 60 to 70 percent ponderosa pine in future decades Ponderosa pine would be emphasized on approximately 454,388 acres, and mixed conifer species emphasized on approximately 330,829 acres. A full range of timber management intensities would be made available to 905,151 acres to meet this goal Of these available acres 835,970 acres are deemed suitable for timber production Of the suitable land, 56 percent would be managed for full yield, 39 percent for 50 to 90 percent of full yield, and 5 percent for less than 50 percent of full yield Heavily defoliated and slow-growing, diseased mixed conifer stands would be scheduled for regeneration harvest in the first decade In Alternative I, first decade timber sale program quantity and annual timber harvest would be 211 million board feet annually This is about 17 million board feet below the 1980-89 average annual sell levels

Range Management The range management goal is to maintain permitted range-use levels with some reduction occurring to improve anadromous riparian areas in unsatisfactory condition Full utilization of forage would be encouraged Livestock and big game would be allowed to consume 50 percent of the annual growth of forage on uplands

Recreation. The recreation management goal is to emphasize dispersed, roaded recreation opportunities with moderately high levels of unroaded and developed recreation opportunities

Unroaded recreation opportunities outside wilderness would be provided in 8 currently unroaded areas encompassing 79,854 acres (including 3,066 acres of the wild portion of the Malheur River) Wilderness acres would remain at the level they are today, 81,320 acres Monument Rock Wilderness would be managed for semiprimitive wilderness recreation opportunities Strawberry Mountain Wilderness would have 8,244 acres in the lakes basin managed for semiprimitive wilderness opportunities, 53,586 acres managed as primitive trailed wilderness, and 6,870 acres managed as primitive trailless

Virtually all the remainder of the Forest would be managed to provide opportunities for roaded recreation Of the 25 existing campgrounds, 20 would be managed as developed sites The remaining campgrounds would be managed for dispersed use Management activities would be modified on 225,953 acres along visually sensitive travel routes

Riparian Area Management and Fisheries Habitat The riparian and fisheries management goal is to manage all riparian areas to meet Oregon State water quality standards and maintain or improve fish habitat Habitat improvement will be achieved with a combination of riparian area improvement and structural habitat improvement Improvement in the abundance and diversity of riparian vegetation, with the associated geomorphic recovery of the stream channel, will account for the larger part of the expected increase in fish habitat capability over time Structural work will be done to accelerate this riparian improvement as well as to provide direct habitat improvement Habitat improvement work will be applied at a rate of about four miles per year Forest-wide Priority for appropriated funds for this work will go to anadromous streams Fish habitat improvement will also be funded with K-V funds generated by timber sale receipts

In riparian areas in a condition to meet the needs of riparian-dependent resources, the forage utilization objective will generally be no more than 45 percent for grasses and 40 percent for shrubs (for livestock and big game combined) Utilization standards may

vary based on site-specific standards in allotment management plans. In riparian areas not in a condition to meet the needs of riparian-dependent resources, such as areas with unstable banks, lowered water table, or a lack of stream surface shade, forage utilization will generally be restricted to 0-35 percent of the annual growth of grass forage and 0-30 percent of annual growth on shrubs Again, standards may vary depending on the specific interdisciplinary objectives of the allotment management plan

Wildlife Habitat The big-game habitat management goal is to manage elk summer and winter range, and wildlife emphasis areas, via a Habitat Effectiveness Index (HEI) model developed for the Blue Mountains, applied on a subwatershed basis (3,000-15,000 acres) Satisfactory big-game cover would be retained at a minimum of 10 percent in winter ranges (where possible), 10 to 15 percent in summer ranges, and at 15 percent in Wildlife Emphasis areas

Snag habitat would be retained to support 40 percent of the potential of cavity dwelling species Forest-wide. In riparian areas, snag habitat would be retained to provide 60 percent of potential, 60-100 percent in wildlife emphasis areas, and at or near natural levels in wilderness areas, Research Natural Areas, the Scenic Area, bald eagle winter roosts, and dedicated old-growth areas Snag replacement habitat trees would also be provided to maintain these levels into the future

Habitat improvement to mitigate timber harvest, road construction, or livestock grazing impacts to the wildlife resource would occur Habitat enhancement would occur at a moderate level It would include burning, seeding and planting to improve forage. It would also include snag creation, retention of dead and down woody material, and rehabilitating decadent aspen stands

Old-Growth Forest: The old-growth management goal is to provide sufficient habitat to maintain dependent species at 30 percent or more above their minimum viable population levels Total old-growth habitat provided would be on approximately 121,042 acres, with 47,690 acres on timber-producing lands outside wilderness, bald eagle winter roosts, and roadless areas In addition, there would be approximately 25,000 acres of old-growth replacement stands that would facilitate that old growth conditions are ensured well into the future.

Management of Undeveloped Areas: The undeveloped area management goal is to maintain in a roadless condition Aldrich, McClellan Mountain, North Fork Malheur River, Malheur River, Glacier Mountain, Myrtle-Silvies, Greenhorn Mountain and Shaketable areas utilizing manageable boundaries The remaining roadless areas would be assigned to other resource emphases

Unroaded recreation opportunities outside wilderness would be provided on 79,854 acres The Pine Creek Further Planning Area would not be recommended for wilderness designation but would be assigned to other resource emphases

Research Natural Areas: The Research Natural Area (RNA) management goal is to preserve the established areas as examples of naturally occurring ecosystems in unmodified conditions for research and education Canyon Creek is the only existing Research Natural Area. Four candidate Research Natural Areas would be identified for the Forest; one is located in the Strawberry Mountain Wilderness (Baldy Mountain), and the others are Shaketable Mountain and Dixie Butte, and Dugout Creek

Mitigation Measures: Alternative I provides management direction for wildlife, roadless areas, riparian area improvement, insect-resistant stands, and scenic travel corridors.

Within the acreage available for timber production, old-growth habitat areas would be dedicated to maintain the dependent wildlife species at 30 percent or more above their

minimum viable level In areas that have no programmed harvest, the dependent species would be present at or near their maximum population levels

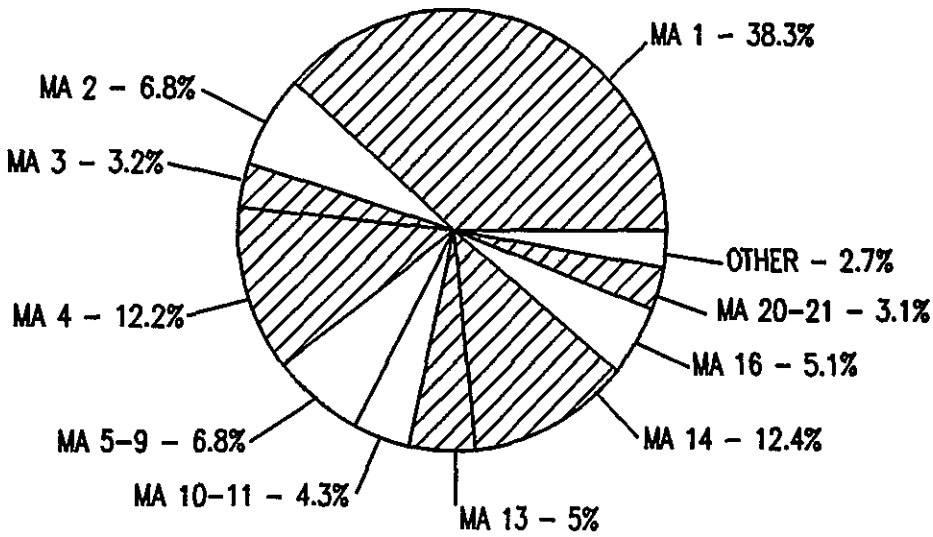
To maintain viable populations of cavity-excavating species, which in turn provide habitat for other species, snags would be managed to provide habitat for at least 60 percent of the potential population in riparian areas and 40 percent of potential populations in other management areas for a Forest-wide objective of slightly greater than 40 percent Snag replacement trees would be provided across the managed forest and dead trees along *stream courses which fall across streams would be left to produce fish-rearing pools*

Effects of timber management activities such as logging and road construction are mitigated in Alternative I with 79,854 acres of roadless areas Two kinds of roadless areas are planned There would be 62,210 acres of roadless areas that would provide semiprimitive, *nonmotorized recreation Timber harvesting, road construction, and motorized vehicles* of any kind would be prohibited in these areas These areas, along with 81,320 acres of wilderness, would provide for the Forest visitor who wants to get away from the sounds and sights of human activity There are 14,578 acres which would provide semiprimitive, motorized recreation Timber harvesting and road construction would be prohibited in these areas while allowing for motorized vehicles and trail construction to provide for Forest visitors who enjoy motorized recreation in a semiprimitive setting

Logging activities, road construction, and grazing would be modified on 225,953 acres of land occurring along visually sensitive travel routes These viewsheds would be managed to provide travelers with "natural-appearing" to "slightly altered" scenery

Figure II-7 gives a representation of the percent of land in various management areas in Alternative I The acres by management area are displayed in Table II-4

FIGURE II-7: Management Areas for Alternative I (Percents)



7 Management Areas by Alternative

One of the key factors in formulating alternatives is the mixture of land management areas These identify the types of management activities that can occur in specific areas Each of the management areas used to build alternatives is described on the following pages. Table II-1 summarizes the types of timber harvest activity which would be allowed in each of the management areas and Table II-4 presents the acres of each management area for each alternative in a format for comparison The maps enclosed with this Environmental Impact Statement provide both a brief description of each management area and its location on the Forest The applicable management practices specified by the standards are presented in Appendix D and in the accompanying Forest Plan except for the No Change Alternative Standards for that alternative can be found in the three Unit Plans and the 1979 Timber Resource Management Plan